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ABSTRACT

The Snap-On Tools Workplace Literacy Grant developed a curriculum for training adult workers in technical math and reading, English as a Second Language (ESL), and blueprint reading. Curriculum development was based on a workplace audit. Reading levels increased an average of 0.8 of a grade level. Flexibility and implementation of adult student suggestions were important. Eighty-four percent of math students showed improvement. A big difficulty in the reading and math classes was the wide range of student needs. The blueprint reading class enhanced thinking skills of students by following through on lessons in work-related problems. A Vietnamese employee taught the ESL course. Vietnamese employees improved 100 percent in math skills and 87 percent in reading skills. All students were pre- and post-tested with the Adult Basic Learning Examination for the math portion and Slosson Oral Reading Test for the reading portion. Analysis of Advisor Rating Scale sheets indicated that 91 percent of participants improved their abilities on the job, in their supervisor's opinion. A project evaluation recommended greater communication between employer and employees, incentives of child care and transportation reimbursement in recruitment, greater individualization, and opportunity for student evaluation. (Other contents of the report are data tables, program information, and copies of evaluators' reports.) (YLB)

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ED355365

National Workplace Literacy Program

Final Report

December 14, 1992

Submitted by
Illinois Eastern Community Colleges

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SNAP-ON TOOLS WORKPLACE LITERACY GRANT
FINAL REPORT

The six objectives of the Snap-On Tools Workplace Literacy Grant were:

1. To design and develop a well-integrated curriculum for training adult workers in technical math, technical reading and learning skills, English as a Second Language and job-specific skills such as blueprint reading.

2. Increase the math skills of 30 Snap-on employees by at least one grade level by providing them with training in technical math.

3. To raise the reading comprehension and learning skills of 30 Snap-on employees by at least one grade level by providing them with training in technical reading.

4. To improve the skills of 30 Snap-on employees in blueprint reading.

5. To increase the English skills of at least 10 Snap-on employees by providing ESL training.

6. To evaluate the effectiveness of the training program in terms of classroom learning, job performance, job opportunities, and plant productivity.

Before the project began, Illinois Eastern Community Colleges and Snap-on Tools had cooperated in a plant-wide assessment of 200 of Snap-on's 800 employees to identify reading and math skill levels. This assessment revealed that more than 98% of the workers read below the 10th grade level and more than 49% had math skills below the 9th grade level. According to a survey of supervisors, these levels were not consistent with the skills needed to accurately and efficiently perform responsibilities required at Snap-on Tools. Since the plant is in the process of converting to a new quality control system and new automated manufacturing equipment, management saw the need to upgrade the basic skills of production workers.

The project conducted by IECC was designed to improve skill levels and accomplish the above 6 goals within an 18-month period. The project began March 1, 1991 (as anticipated) with the appointment of the Project Director, Greg Higginbotham; a full-time advisor; and a full-time secretary.

The first 3-4 months of the project were devoted to curriculum development for courses in basic reading skills, technical math, blueprint reading and ESL. The curriculum development was based on a workplace audit conducted by consultants from Ohio University. Workers were interviewed to identify those skills that are essential for effective work performance at Snap-on Tools. This information was then incorporated into curriculum development in the completed curriculum in all three subject areas (reading, math, and blueprint reading). The completed curriculum which covers approximately 300 pages, can be obtained from IECC upon request.

Computer equipment and software to supplement the instruction were purchased and installed by August 20, 1992.

Course instruction began May 29, 1991, at Snap-on Tools with 29 students enrolled in technical math. Employees attended class 4 times a week for 10 weeks. Bob Adams, a former instructor at Wabash Valley College, was the Mathematics instructor. In the fall semester Connie Eldridge served as the Reading Skills instructor. Twenty-three employees were enrolled in Math, but only one employee enrolled in Reading. Enthusiasm for enrollment in Math was spurred by Snap-on's offer of a free tool set to any employee completing Math and Blueprint Reading. (Successful completion of the Math course was a prerequisite for enrolling in Blueprint Reading.)

In September, 1991, we offered three courses. At this time, there were 23 employees enrolled in Math, 26 in Blueprint Reading, and 1 in Reading.

In January 1992, all four courses were offered for the first time. At this time, there were 33 employees enrolled in Math; 7 in Reading; 17 in Blueprint Reading; and 10 in ESL. At the end of the semester, 44% had increased by one level or more in Reading;25% had increased by one level or more in Math; and 91% had increased by the targeted level in Blueprint Reading.

Summary of Improvements in level and plant productivity:

After analyzing the Advisor Rating Scale, it was determined that 96% of the participants in the Workplace Literacy Grant increased their productivity and reduced their amount of scrap and rework. There was a very definite benefit to both the plant and the employees.

Objective 1 - Develop Curriculum

The curriculum for the four courses was completed by December, 1992 and evaluated by Gail Buoy in June and October, 1991 and March, 1992. Suggestions for improvement were incorporated into the curriculum.

A. Kathy Rodgers, a math professor at the University of Southern Indiana, developed the math curriculum using a math textbook called Essential Mathematics by MacMillan

Publishing. The math curriculum included pre-tests, post-tests and teaching instructions for the instructor. The curriculum was completed by August 1991.

B. Gene Gehret completed the initial reading curriculum on August 1, 1991. Task Trainer of Freeport, Illinois, completed their part of the reading curriculum on October 31, 1991. Larry Reed, the blueprint reading instructor, developed a Glossary of Words used at Snap-on Tools plant for the reading curriculum.

C. Harry Sauter, a private consultant with 37 years of engineering and quality control experience, has developed 24 lesson plans for the blueprint reading curriculum. Mr. Sauter completed the blueprint reading curriculum on October 31, 1991. We used two blueprint reading books and Snap-on Tool blueprints. Larry Reed developed several tests for the blueprint reading curriculum.

D. Beckee Bachman-Costa, the English as a Second Language instructor for Illinois Eastern Community Colleges, developed the ESL curriculum. Rita Moore of SIU-Carbondale developed the ESL curriculum further. Ms. Moore completed the ESL curriculum December 1, 1991. To explain the ESL class, the project manager sent out letters in Vietnamese to the appropriate employees. Letters in English were sent to Hispanic employees.

Objective 2 - Increase Reading Levels

Reading levels increased an average of .8 of a grade level. Although the enrollment was less than anticipated it was beginning to build by the end of the project because of "word of mouth". It was found that flexibility was very important and that implementing adult student suggestions was extremely important in developing an effective reading curriculum for adult learners. For example, Snap-on management wanted to incorporate language from its standard operating procedures into the reading curriculum, but it was found that the employees resisted this approach. The employees asserted that they preferred materials that were not necessarily work-related. As a result the reading instructor used materials that were family oriented and geared to motivating the student's desire to learn. Some time was devoted to work-related materials during the class time.

Newspaper articles were used as a learning device with emphasis on interesting articles at the beginning and progressing to more difficult articles in the end. Adult learners underlined unknown words, used the dictionary, and then re-read the article for better comprehension.

Lists of new words and flash cards were developed with the meaning of the words on the back of the cards. The newspaper was also used as students circled prefixes and suffixes, so that they would learn to look closely at word structures and reinforce phonics instruction.

Interesting children's literature, such as Oh! The Places You'll Go!, was used because of its motivational quality and suitability to children and adults. Also its suitability enabled the students to share it with other family members. Children's literature of this nature was used because of its family orientation. Positive attitude development and motivational material were found to be a necessity for the adult reading classes. The following is a list of sources used in the reading class, with explanations after each selection for clarification:

Learning Phonics & More Phonics Cassettes: Hampden Publications, Inc. P.O. Box 4873, Baltimore, MD 21211.

Strategies for recognizing words; used as a backbone for the class.

The Family Album of Favorite Poems: edited by P. Edward Ernest; examples: "To Thine Own Self Be True," William Shakespeare; "The Road Not Taken," Robert Frost.

This was used for attitude development and for discussion of word meanings, thought patterns, and mental imagery.

Children's Literature:

Oh, The Places You'll Go! by Dr. Seuss.

Alexander and the Terrible Horrible, No Good, Very Bad Day by Judith Viorst.

Aesop's Fables

The purpose of these books were to encourage employees to share with their family and to enhance their attitude toward reading.

Reading Faster and Understanding More, Book Two, by Wanda Miller, published by Scott Foresman Co.

Workshop on Learning Disabilities Related to Reading: "Succeeding with Unique Learners" presented by Professor Eileen Nelson, Reading Disabilities Consultant, Literacy Volunteers of America, Illinois, Inc.

Newsweek--This was used for vocabulary building and for teaching the main idea.

Newspapers--Local, large city, national: used for format to reinforce phonics and word parts (circle words or parts, look up unknown words), thinking skills.

Dictionary--How to use and for vocabulary development.

Computer Software--Apple II Plus Media Material Inc. Microcomputer Courseware; Essential Vocabulary Series: 2936 Remington Avenue, Baltimore, MD 21211 Order number 7240-7245.

Fundamentals of Reading Level I: Lab manual, Vincennes University, Reading Faculty.

Our suggestion for future instruction was that reading could not be taught separately. This could be accomplished by inserting a period of time using reading materials as a "break" in the technical teaching. The majority of the reading students requested phonics instruction. Phonics cassettes and work sheets were used by students in reading class, and these materials were obtained from the college library tutorial department. (Documented in the source section.)

The main teaching plan for the class incorporated five points entitled "work attack system": 1. Context; 2. Sounds; 3. Word parts; 4. Syllables; 5. Dictionary.

During classroom time the instructor periodically asked for the student's evaluation of the material being used and adjusted the class to fit their needs. One of the biggest difficulties in this type of teaching was the wide range of student needs. Some of these difficulties related to: Level of achievement, different socio-economic background, and gender. The reading class achievement levels ranged from fourth grade to ninth grade. To cope with this situation, time was spent individually with each student to set up individual education goals. This required extra planning and extra supplemental materials for individual work. The idea of working together and not competing with others, but with yourself, was stressed. Cooperation, helping others, and working for the common good of everyone was emphasized (teamwork or cooperative learning). Students who were more advanced sometimes worked with less skilled students on general assignment while the teacher devoted time to one-on-one instruction with a student on a special assignment. Later, the class came together for a common lesson with emphasis on phonics, dictionary skills, or a test from work-related material. Most students completed the course by reading a children's classic in an area they liked, such as, Twenty-Thousand Leagues Under the Sea, by Jules Verne, and then gave a book report to the class. This idea was a mutual decision made by the students and instructor. The book report was a suggestion made by one of the students.

Since book reports represented a threatening situation for them in high school, the general idea was to do it correctly this time.

Some important factors for teaching success were: Blue collar experience, flexibility, clear cut goals, and time spent in discussion and relaxation before or after the student's work day. Some of the adult students had difficulty with attendance and this was handled in two ways. A great deal of emphasis was placed on the fact that "you get out of it what you put into it" and meetings were considered very important. Leaving early and arriving late were accepted by the teacher to help students with busy schedules. The teacher allowed for work to be made up or taken home for extra practice if they desired. Some life circumstances were so disruptive, however, that they prevented attendance to the class. Death or sickness in the family and automobile problems were some things that affected the students' ability to concentrate and to learn. Sometimes, in this instance, it was necessary to postpone the learning experience until a better time. An adult instructor must be <u>flexible</u> enough to deal with these circumstances and be willing to seek out help or advice from others if needed. <u>Cooperation</u> was a key word for both students and instructors and was combined with open communication at all times.

The seven people who completed the reading class raised their reading skills by the following grade levels:

One person -- 2 grade levels
Two people -- 1 grade level
One person -- .5 grade level
One person -- .4 grade level
One person -- .3 grade level
One person -- .1 grade level

100% improvement in the students' reading levels.

Objective 3 - Increase Math Levels

One problem with the math class was the wide range in the students' math skills. The math instructor was a good instructor, but needed to be more flexible with the students.

We used some experimental software from Ohio State, but had some difficulty with it. We purchased additional math software for the math classes. We purchased Math Tutor, Math Buster, and Algebra.

Management officers decided after three semesters that they wanted a new math instructor. The math class was then taught by Phyllis Schucker, a retired school teacher. She taught the math course as a traditional math class, with students learning together, but was flexible with the students' individual needs.

Ms. Schucker also had an excellent rapport with the management.

The math class was taught as a group lesson. The teacher explained each step of every problem. The student took chapter tests to practice for the final. The requirements for the class were to pass the final with 90% correct. Most of the students passed the final the first time and those who didn't were encouraged to try again, which they did. This indicated that their confidence level in themselves had improved, and these students passed the second time. Many of the students stated that they could now help their children with math homework, which enhanced family living and also increased work skills.

Seventy-seven students were pre-tested and post-tested for math using the ABLE test. The following conclusions were drawn:

Four students raised their math level two grade levels, fifteen students raised their math level one grade level, and seventeen students raised their math level one-half grade level. The overall conclusion was that 84% of the math students showed improvement.

Objective 4 - Blueprint Reading

The blueprint instructor utilized the company's (Snap-on Tools) drawings for each class. These drawings were reduced and then presented on the over-head projector. Students were then given handouts of drawings to study and to reinforce class time study. The instructor used "hands on lessons" in which the students used actual components for sub assemblies. Tests were based on blueprint drawings. The instructor printed the tests on colored paper to stimulate interest, for eye appeal, and to reduce the stress factor or fear of testing. He used lots of visual recognition tests and matching of parts to a drawing. Also, the instructor created individual lesson plans which met the demands of various ability levels. He spent time getting to know the students and workers to meet their individual needs. For extra work, outside problems, or problems not in the book, were discussed. Also, engineers were guest speakers, and students could ask them questions about problems or lessons from the class.

Thinking skills of the students were greatly enhanced by following through on lessons in real life or work-related problems. The students took tours of other departments to allow them to think beyond their individual jobs. In fact, the students were shown jobs from conception to completion and were encouraged to think in a positive manner about management problems.

The instructor worked as a liaison between workers and management, which was very beneficial for the company, as well as the workers. He presented the material so that the students learned comprehension and learned to use "all around" working and thinking skills.

The instructor's work experience was an asset in every way. He encouraged the students' self-esteem and taught them to ask questions as a problem-solving technique. This teacher was very familiar with industry, and the students benefitted from this by learning positive work relationships and increased confidence in their company. Ninety-one percent felt that they benefitted from blueprint reading class. Forty students completed the blueprint reading class.

Objective 5 - ESL

Many of the Vietnamese at Snap-on were laid-off and had moved away. The Vietnamese formed a very close knit communty and didn't want someone from the college system as an SL instructor. One of the Vietnamese working at Snap-on Tools, a U.S. Citizen with an Associate in Science Degree in Electronics from Wabash Valley College, offered to teach ESL to the Vietnamese.

Ten students started the course and eight completed the course. The course was taught at Wabash Valley College and at Albion, Illinois. The students at Wabash Valley College used the ESL lab at the Library. The students at Wabash Valley College also used the Vietnamese picture dictionary and curriculum developed by Southern Illinois University. Since there were only two Vietnamese employees at Snap-on who wanted to take the course, the Project Director felt we should offer the course to other Vietnamese in the area; therefore the class included 6 Vietnamese natives employed at other plants in the area. The Vietnamese improved 100% in their math skills and 87% in their reading skills, according to the pre- and post-SORT and ABLE tests.

Objective 6 - Evaluate

Analyze Classroom Learning:

Each individual who participated in the math, reading and ESL classes was given a pre-test and post-test.

All students were tested with ABLE for the math portion and SORT for the reading portion. Results are as follows:

Reading Students (7)

Math scores indicated that 71% of students tested showed improvement from the pre-test to the post-test. Reading scores indicated that 100% of the students tested showed improvement from the pre-test to the post-test.

English as a Second Language Students (8)

Math scores - 100% improvement
Reading scores - 87% improvement

Math Students (77)

Math scores - 84% improvement
Reading scores - 66% improvement

The control group (21) showed the following:

Math scores - 62% improvement
Reading scores - 52% improvement

I believe the conclusion could be drawn that all students benefitted from taking the class.

Job Performed:

After analyzing the Advisor Rating Scale sheets, it was determined that 91% of the participants in the workplace literacy grant improved their abilities on the job, in the opinion of their supervisor. Again, the conclusion could be drawn that 91% of the students benefitted from taking the class.

Job Opportunities:

There have not been any promotions that I am aware of at this time. Due to economic conditions, the plant is in the process of laying off employees.

Plant Productivity:

After analyzing the Advisor Rating Scale, it was determined that 96% of the participants in the workplace literacy grant program increased their productivity and reduced their amount of scrap and rework. There was a very definite benefit to both the plant and the employees.

Snap-on Tools Project Timetable

I. The Snap-on Tools Project staff began work on March 1, 1991 with Greg Higginbotham, Project Manager; Debbie Bailey, Skills Enhancement Advisor; and Deb Ferguson, Secretary. The staff was employed by Illinois Eastern Community Colleges/Frontier Community College, but was based at Wabash Valley College in Mt. Carmel, Illinois, where Snap-on Tools is located. Jane Owen became the secretary in August, 1991, after Deb Ferguson resigned. Connie Eldridge became Skills Enhancement Advisor in April, 1992, after Debbie Bailey resigned.

Nancy Puleo of Ohio State University visited the Snap-on Tools Project in March, April, and July, 1991, to help the project formulate evaluation sheets, DACUM charts, and look at curriculum. Ohio State University also set up a math software package for the computers at Snap-on Tools in July, 1991.

II. Greg Higginbotham and Wayne Henegar, a computer instructor at Wabash Valley College, set up the computers at Snap-on Tools in August, 1991.

III. Debbie Bailey, the skills enhancement advisor, spent time in May, August, and December, 1991, in the breakroom recruiting students for math, reading, blueprint reading, and ESL. Ms. Bailey used posters to inform employees of the information table in the breakroom.

Ms. Bailey administered SORT (Slosson Oral Reading Test) and ABLE (Adult Basic Learning Examination) tests to all students taking classes this September. These tests were given in August. The skills enhancement advisor also met with students to determine their objectives in taking a class. Ms. Bailey met routinely with instructors to monitor the progress of each student. She met frequently with students to discuss any problems that they might be having with a class. Ms. Bailey also gave the SORT and ABLE to students who completed the math course.

The instructors in math, reading, blueprint reading, and ESL all gave course pre-tests in January, 1992, and post-test in April, 1992.

Ms. Eldridge met with fifteen Snap-on Tools employees in June and July, 1992, to work on educational plans for the future. The educational plans included discussion of college degrees and additional classes to help with job skills required for the job.

Snap-on Tools Project Timetable

IV. Kathy Rodgers, a math professor at the University of Southern Indiana, developed a math curriculum using a MacMillan Publishing Company textbook called Essential Mathematics. Ms. Rodgers developed two sets of pre-test, two sets of eight chapter tests, two sets of post-tests, and accompanying work problems. The curriculum was developed by the end of August, 1992. Mr. Bob Adams was the math instructor for the first three semesters.

V. Harry Sauter developed twenty-four lesson plans for the blueprint reading class. He completed the blueprint reading curriculum on October 31, 1991. Mr. Sauter made several trips to Snap-on Tools to observe, ask questions, and look for information for lesson plans. The Snap-on Tools project used two textbooks for the blueprint reading class: Elementary Blueprint Reading and Intermediate Blueprint Reading for Machinists.

Larry Reed, an electronics instructor at Wabash Valley College, was the blueprint reading instructor. He had good rapport with his students in the blueprint reading class. Mr. Reed used Snap-on Tools drawings, tools made at the Mt. Carmel plant, and videos on blueprint reading in his class. Mr. Reed developed several tests for the blueprint reading class.

VI. Task Trainer developed lesson plans for the Snap-on Tools Project. Task Trainer had lesson plans developed by October 31, 1991. Gene Gehret's 12 lesson plans were very successful with the reading class. Connie Eldridge had good rapport with the students in her reading class. Ms. Eldridge also used phonics tapes, a reading workbook, and a glossary of words which was developed from the Snap-on Tools plant.

VII. Beckee Bachman-Costa, the English as a Second Language instructor for Illinois Eastern Community Colleges, developed part of the ESL curriculum. Rita Moore, an ESL instructor at SIU-Carbondale, developed the ESL curriculum further. The ESL curriculum was completed by December 1991. Letters were sent in Vietnamese to Snap-on employees of Vietnamese origin. Ten people signed up for the ESL spring course. The ESL class was taught by Kim Van Do, a Snap-on Tools employee.

VIII. Gail Buoy, the Project Evaluator, visited Snap-on Tools Project in June and October, 1991, and March, 1992.

IX. Supervisors' evaluations were completed in January, March, and June of 1992.

X. The control group was pre-tested for the SORT and ABLE tests in July, 1991, and post-tested in March, 1992.

Snap-on Tools Project
Final Report of Students Served
May 11, 1992

	Planned Total to be Served
Math	30
Reading	30
Blueprint Reading	30
ESL	10
TOTAL	100

Total Served by Semester

	Summer	Fall	Spring
Math	27	23	27
Reading	0	1	7
Blueprint Reading	0	26	14
ESL	0	0	8
TOTAL	27	50	56

Total Served

	Actual Total Served
Math	77
Reading	8
Blueprint Reading	40
ESL	8
TOTAL	133

Snap-on Tools Project
Student Numbers
May 11, 1992

	SUMMER		FALL		SPRING		TOTALS	
	E*	C*	E	C	E	C	E	C
MATH	29	27	23	23	33	27	85	77
BLUEPRINT READING	0	0	26	26	17	14	43	40
READING	0	0	1	1	7	7	8	8
ESL	0	0	0	0	10	8	10	8
TOTALS	29	27	50	50	67	56	146	133

* Enrolled
* Completed

Snap-on Tools Project
Percent of Students Completing Classes
May 11, 1992

	SUMMER	FALL	SPRING	TOTALS
MATH	93%	100%	81%	91%
BLUEPRINT READING	N/A	100%	82%	93%
READING	N/A	100%	100%	100%
ESL	N/A	N/A	80%	80%
TOTALS	93%	100%	83%	91%

NATIONAL WORKPLACE LITERACY PROGRAM
INFORMATION FORM

FOURTH QUARTER
APRIL 30, 1992

Part 1: Program Parameters

1. Target No. to be Served: 100

2. No. Served at Each Site to Date:

Site 1. 27 - Summer
Site 2. 50 - Fall
Site 3. 56 - Spring
Site 4. _____
Site 5. _____

3. Total No. Served: 133

4. Fed. Funds Obligated: $184,010

5. Matching Funds/ In-Kind: 82,252

6. Value Release Time: 21,160

7. No. Participating in Programs Offered:

	S	F	SP	TOTAL
Basic Skills	27	50	56	133
GED				
ESL		10		

8. Contact Hours Provided: _____

(Contact Hours are the number of teaching hours that workers receive)

	S	F	SP
Reading	0	40	48
Math	48	48	48
Blueprint Reading	0	58	48
ESL	0	0	48

Part 2: Participation Data

1. Mean Age Participants: Summer - 35, Fall - 38, Spring - 36, Total Mean Age - 37

2. Sex: No. Males 109 No. Females 24

S	F	SP	S	F	SP
22	42	45	5	8	11

3. Race/ Ethnicity: No. who are:

	S	F	SP	T
White	25	46	46	117
Black	1	2	0	3
Hispanic	0	0	0	0
Asian	1	2	10	13

4. No. Single Head of Household: N/A

5. No. Limited English Proficient: 10

6. Outcomes — No. Participants

a. Tested higher on basic skills	133
b. Improved communication skills	133
c. Increased productivity	127
d. Improved attendance at work	133
e. Increased self-esteem	133

7. Years with the company — No. Participants

	S	F	SP	T
Unemployed	3	2	2	7
0-5	0	0	0	0
6-10	0	2	3	5
11-15	15	28	27	70
16-over	9	18	18	45
other	0	0	6	6

S = Summer
F = Fall
SP = Spring
T = Total

The final performance report, the final external evaluation report, and curriculum development product were sent to:

1. Clearing house on Adult Education and Literacy
   U.S. Department of Education
   400 Maryland Avenue S.W.
   Washington, D.C. 20202-7240

2. ERIC Clearinghouse on Adult Career,
   and Vocational Education
   Center on Education and Training for Employment
   1900 Kenny Road
   Columbus, OH 43210

3. Curriculum Coordination Center
   Sangamon State University
   Springfield, IL 62794-9243

External Evaluator's Reports

June 18, 1991

October 31, 1991

July 9, 1992

June 18, 1991

Mr. Greg Higgenbotham, Project Manager
Snap-On Tools Project
2200 College Drive
Mt. Carmel, Illinois 62863

Dear Greg:

In evaluating your project on June 10 and 11, 1991, I am offering the following recommendations be made to improve the project:

1. There is a need for greater communication between the employer and employees. The employees should understand the problem created by scrap and rework and should be able to relate to their ability to reduce the problem by increasing their reading and math skills. Informing the employee and keeping them informed should result in more people enrolling in classes. Cooperation is needed on the part of the company and the union. Studies of other workplace literacy programs indicate that enrollments will increase as employees see that peers are benefitting from classes.

2. In attempting to recruit workers who are laid off, the incentives of child care and transportation reimbursement should be communicated and utilized.

3. There are several problems with the curriculum:

   A. Students should be allowed to take materials home with them.

   B. A curriculum specialist should be hired to develop the math and reading curriculum. I recommend that this be someone at the university level who has experience in the field of adult literacy.

   C. The reading curriculum that was shown to me was built on the benefits manual and was developed by a sixth grade teacher. According to the application for federal funds, it should be based on the plant's standard operating procedures manual.

4. It should be impressed upon the instructor that the people enrolled in the class were promised individual attention and they do not feel they are receiving it.

5. I recommend a closer working relationship with the counselor. She seems to have a good working relationship with the people in the class and has some good ideas that should be implemented.

6. The daily progress of the three mandatory students should be compared to the progress of the volunteer students to assess the benefits of mandating enrollment.

7. Students need to have the opportunity to evaluate the course and instructor. It would be advisable to do this halfway through the course, and again at the end.

8. Offer classes two times a week as opposed to four days.

9. Offer classes for beginning reading off-site, that is, away for the employee's work site.

10. Work with the employer in an attempt to encourage those who need basic reading skills to enroll in classes. The input of the union, the employer and the Advisory Council should be sought for assistance in ways to help recruit the low level student into basic literacy courses.

If I can be of assistance, please feel free to call me at 217/782-3370.

Sincerely,

Gail Buoy

Gail Buoy
Senior Consultant
Illinois State Board of Education

higbtham.gb

Frontier COMMUNITY COLLEGE

Snap-on Tools Project
2200 College Drive
Mt. Carmel, IL 62863
618 262-8641

July 19, 1991

Ms. Jan Sutter
IL Eastern Community Colleges
233 East Chestnut
Olney, IL 62450

RE: Recommendations for the Snap-on Tools Project

Dear Jan:

I am enclosing a copy of the letter I recently received from Gail Buoy, a Senior Consultant for the Illinois State Board of Education.

I am submitting the following suggestions for improving this project, based on Ms. Buoy's recommendations.

1. The Snap-on Tools Project staff and Bob Boyles will meet weekly with a representative of the Educational Committee and other interested parties. This will be helpful in providing a better working relationship between all those involved. In these weekly meeting we will discuss how to communicate to the workers the connection between scrap and rework and enrollment in skills enhancement courses.

2. Hand-outs will be distributed explaining the available child care and transportation reimbursement.

3. Snap-on Tools Project staff and Snap-on Tools Educational Committee are currently discussing the feasibility of students being allowed to take the textbooks home.

I will hire Kathy Rodgers, a math professor at the University of Southern Indiana, to develop the math. She has previously developed math textbooks. Gene Gehret will continue to develop the initial reading curriculum so that we can have it filed by August 1, 1991. The reading curriculum and other reading materials will be turned over to someone at the university level to be developed into a lasting curriculum.

Gene Gehret, the sixth grade teacher who is developing the initial reading curriculum has developed lesson plans for the plant's standard operating procedures with benefits lesson plans developed to be a supplement.

4. Debbie Bailey, Bob Boyles, and the Educational Committee have met with Mr. Adams, the math instructor, to stress the importance of individualized instruction. I have also discussed this matter with Mr. Adams.

5. I hope that Bob Boyles, Debbie Bailey, and myself can meet weekly to exchange ideas on classes, students, and curriculum development.

6. We will monitor the progress of the mandatory students to see if making the class mandatory is feasible.

7. Illinois Eastern Community Colleges and Snap-on Tools are in discussion about having the teacher and course evaluated by the students.

8. Classes to be held this fall will only meet two (2) days a week.

9. The reading and ESL courses will be offered on the campus of Wabash Valley College this fall. We are suggesting this change in location to provide privacy to the students.

10. I plan to speak with Don Dunkel, the Educational Committee, and the Union Business Agent regarding suggestions for raising the interest in the reading course.

Sincerely,

Snap-on Tools Project

Greg Higginbotham
Project Manager

GMH/dlf
Enclosures

pc: Bob Boyles
Gail Buoy

Mr. Greg Higgenbothan
Project Manager
Snap-On Tools Project
2200 College Drive
Mt. Carmel, Illinois 62863

Dear Greg:

In evaluating your project on October 28 and 29, 1991, I am offering the following recommendations be made to improve the project:

1. According to the original application, the project is to measure the job performance of those employees who have participated in classes offered through the project. As quoted from p. 27, "Job performance will be tested by measuring instruments to be developed by the Project Manager, the Consultant, and plant supervisors. These testing instruments will include observation and evaluation of the employee enrolled in the training program by the supervisor and an employee performance profile." Due to an oversight, this has not been developed. The Consultant should be contacted for this purpose, and the procedure promptly put in place.

2. There is a need to step up recruitment efforts for the reading class in order to meet the goal of 30 students I recommend a two step approach to achieve this.

   A. Discussions should take place with the Union in order to ascertain their position of support for the low level reader. If they are in support of classes for these people, meetings need to be conducted with both Management and Union in attendance to work out details of establishing classes. A major stumbling block here may be the lack of understanding of the need for literate employees on the part of the employer.

   B. The recruiter should work with the current reading student, who indicated a willingness to supply names of coworkers who share his reading problems. Working together, they may have some success talking one-on-one with prospective students.

3. Recruitment of ESL students is also a problem. I suggest making home visits to the ESL population in order to get the whole family involved. This approach has been proven successful in other places. Also, if a large number of this population has migrated out of the area as has been suggested, I would encourage you to seek permission to change your proposed number of ESL students.

4. Although the curriculum has been revised, there still is a problem with the math teacher. He is aware of a number of students who will not pass the course, yet he doesn't appear to be giving any extra assistance to those people. There needs to be much more interaction taking place between the instructor and students. Small group work may be advisable as well as intense individualization.

5. The computer system that is in the classroom is not usable in its present state. Ohio State should be made aware of this and should solve the problems with it.

The choice of teachers for the blue print reading class and the reading class is excellent. They both have the undivided attention of the students. The reading teacher should be commended for her flexibility with materials. This has retained the student and kept him involved, interested and determined.

If I can be of further assistance, feel free to call me at 217/782-3370.

Sincerely,

Gail Buoy

Gail Buoy
Senior Consultant
Illinois State Board
of Education

Frontier COMMUNITY COLLEGE

Snap-on Tools Project
2200 College Drive
Mt. Carmel, IL 62863
618 262-8641

January 17, 1992

Gail Buoy
3156 Elmhurst
Springfield, IL 62704

Dear Gail:

I am enclosing the projects response to your evaluation in October. I hope we can do the evaluation for spring semester the last of February or the first of March. I will give you a call the last week of January to talk with you on what date we can do the evaluation for the spring semester.

Sincerely,

Greg Higginbotham, Project Manager
Snap-on Tools Project

Enclosures

GH/jo

EVALUATION RESPONSE

1. Ohio State University has sent the project a job performance chart for supervisors to evaluate employees who have completed both Math and Blueprint reading courses. this will take place in February.

2. A. The Union Business Agent helped get the word out to union employees that technical reading was being offered.

B. The recruiter, Debbie Bailey, has recruited eight people for technical reading for the spring semester.

3. The project had Yen Do, a high school senior at Mt. Carmel High School, to send letters out in Vietnamese to the appropriate employees. She also sent letters out to Hispanic employees.

Kim Van Do, an employee of Snap-on Tools, will teach ESL for spring semester. We have 11 students in the ESL class for the spring semester.

4. The project Manager has talked with the math instructor to have more interaction with students. The instructor will try to have more interaction with students.

5. Ohio State University is sending me an updated computer math software manual in the future. Ohio State university's computer math software package is still in the experimental stage. I have bought two new math software packages to be used by the math class for the spring semester.

TO: Greg Higgenbotham

FROM: Gail Buoy

DATE: July 9, 1992

RE: June, 1992, Evaluation Report on National Workplace Literacy Program

Analyze Classroom Learning:

Each individual who participated in the math, reading and ESL classes were given a pre-test and post-test to determine if they had improved due to taking the course.

All students were tested with ABLE for the math portion and SORT for the reading portion. Results are as follows:

Reading Students (7)

Math scores indicated that 71% of students tested showed improvement from the pre-test to the post-test. Reading scores indicated that 100% of the students tested showed improvement from the pre-test to the post-test.

English as a Second Language Students (8)

Math scores - 100% improvement
Reading scores - 87% improvement

Math Students (77)

Math scores - 84% improvement
Reading scores - 66% improvement

The control group (21) showed the following:

Math scores - 62% improvement
Reading scores - 52% improvement

I believe the conclusion could be drawn that all students benefitted from taking classes.

Job Performed:

After analyzing the Advisor Rating Scale sheets, it was determined that 91% of the participants in the workplace literacy grant improved their abilities on the job, in the opinion of their supervisor. Again, the conclusion could be drawn that 91% of the students benefitted from taking the classes.

Job Opportunities:

There have not been any promotions that I am aware of at this time. Due to the economic conditions, the plant is in the process of laying off employees.

Plant Productivity:

After analyzing the Advisor Rating Scale, it was determined that 96% of the participants in the workplace literacy grant increased their productivity and reduced their amount of scrap and rework. There was a very definite benefit to both the plant and the employees.

Curriculum:

There has been an ongoing problem with both the curriculum development and the curriculum itself. First of all, if the project were supposed to increase the number of employees who pass the qualifying test, the contents of the test must be shared with either the instructor, the coordinator of the grant, or the curriculum developer. No one can assist the employees in passing a test if no one is aware of the content of the test. Not only is the content of the test unknown, but employees were not even told if they passed it. After discussing this test with some employees and the coordinator, I must question the "real" use of this test. Is it to keep those employees from moving upward that the employer does not want to move upward? I think this is a serious question.

I have tied part of the problem of the curriculum development to a problem with program management. The person who was initially hired to operate the grant was moved to another position. Consequently, the coordinator (Greg) was not part of the planning for the grant and did not have an education background. While he attempted to hire people to develop the curriculum, he was hindered by his lack of education experience, the unwillingness of the employer to share information on the qualifying test and the lack of guidance provided to him by the college. While there were all these problems, I applaud the program and the coordinator for making the gains that were made, as noted in the classroom learning section.

Debbie Bailey was a definite asset to the program. She was highly commended by both students and the employer.

The attitude towards education on the part of the employer was a definite problem. It was very obvious to me that the person who worked with this grant (representing the employer) saw no connection between a more literate workforce and increased plant productivity.

The math teacher was also a problem, although the math scores did not seem to suffer as a result. He was unwilling to really work with the students one on one and had the presence of a study hall monitor.

The blueprint reading teacher was also an asset. He was very highly thought of by both the students and the coordinator and he had an

excellent classroom demeanor.

I feel that the coordinator has learned a lot and has now gained some educational experience. The test results certainly showed a marked improvement on the part of the students, so the net result was a positive experience for all concerned.

The Snap-on Tools Project staff includes Greg Higginbotham, Project Manager; Connie Eldridge, Skills Enhancement Advisor; and Jane Owen, Secretary. Debbie Bailey resigned April 17, 1992. Connie Eldridge, who had been reading instructor, took the position of Skills Enhancement Advisor on April 22, 1992. Debra Ferguson was the project's secretary from March, 1991, to August, 1991.